

VENCHIKOV, A.I., professor; ZHIEMUNSKAYA, Ye.A., redaktor; BOEROVA, Ye.N.,  
tekhnicheskiiy redaktor.

[Bio-electric potential of the stomach] Bioelektricheskie potentsialy  
sheludka. Moskva, Gos. izd-vo med. lit-ry, 1954. 117 p. (MLHA 7:8)  
(Electrophysiology) (Stomach)

ZHIRMUNSKAYA, Ye.A.

Electroencephalographic analysis of the functional state of the cerebral cortex. Trudy Vses.ob-va fiziol.biokhim.i farm. 2:7-12 '54. (MLRA 8:7)

1. Institut nevrologii Akademii meditsinskikh nauk SSSR.  
(HYPERTENSION, physiology,  
EEG)  
(ELECTROENCEPHALOGRAPHY, in various diseases,  
hypertension)

BASSIN, F.V.; ZHIRMUNSKAYA, Ye.A.

Certain unsolved problems of modern clinical electroencephalography.  
Zhur.vys.nerv.deiat. 4 no.5:728-741 S-O '54. (MIRA 8:7)

1. Institut nevrologii AMN SSSR.  
(ELECTROENCEPHALOGRAPHY)

ZHYRMUNSKAYA, E. A.

"Electrical Activity of Brain in Patients with Hypertension in Treatment by Sleep," Klinicheskaya Meditsina (Clinical Medicine), Vol 32, No 9, September 1954

B-82029, 17 Jan 55

~~SECRET~~ ZHIMUNSKAYA, Ye.A.; SHERMAN, L.M.

Electrical activity of the brain in hypertension during provisional  
ligature of the neurovascular bundle of the temporal lobe. Klin. med.  
32 no.7:37-42 J1 '54. (MLRA 7:8)

1. Iz Instituta nevrologii (dir.-deystvitel'nyy chlen AMN SSSR prof.  
N.V.Konevalov) Akademii Meditsinskikh nauk SSSR.

(HYPERTENSION

EEG after temporary interruption of neurovasc. bundle of  
temporal lobe)

(TEMPORAL LOBE

temporary interruption of neurovasc. bundle, eff. of EEG  
in hypertension)

(ELECTROENCEPHALOGRAPHY, in various diseases

hypertension, eff. of temporary interruption of neurovasc.  
bundle of temporal lobe)



ZHIRMUNSKAYA, Ye. A.

Electrical activity of the brain in hypertension during sleep therapy.  
Klin.med. 32 no.9:74-80 S '54. (MIRA 7:12)

1. Is Instituta nevrologii AMN SSSR (dir. deystvitel'nyy chlen AMN SSSR prof. N.V.Konovalov)  
(HYPERTENSION, therapy,  
sleep, EEG in)  
(SLEEP, therapeutic use,  
hypertension, EEG in)  
(ELECTROENCEPHALOGRAPHY, in various diseases,  
hypertension, in sleep ther.)

ZHEMUNSKAYA, Ye.A.; POLELYANSKIY, Ya.Yu.

Electric activity of the brain in different forms of parkinsonism.  
Zhur.nevr.i psikh. 54 no.3:254-259 Mr '54. (MLBA 7:4)

1. Institut neurologii Akademii meditsinskikh nauk SSSR.  
(Paralysis agitans) (Electrophysiology) (Brain)

BABENKOVA, S.V.; ZHIRMONSKAYA, Ya.A.; SYROYECHKOVSKAYA, M.Ye.; TSUKER,  
M.B.; YUSEVICH, Yu.B. (Moskva)

The nervous system in Urov's disease. Klin.med., 33 no.11:48-54  
N '55. (MIRA 9:7)

1. Iz Instituta nevrologii AMN SSSR (dir.-daystvitel'nyy chlen  
AMN SSSR prof. N.V.Kenevalov)

(OSTEOARTHRITIS,

deformans endemica, nervous system in)

(NERVOUS SYSTEM, in various diseases,  
osteoarthritis deformans endemica)



RUSINOV, A., professor; ZHIRMUNSKAYA, Ye., kandidat biologicheskikh nauk.

Biotics of the brain. Znan.sila 31 no.7:33-36 J1 '56. (MLRA 9:9)

1.Chlen-korrespondent Akademii meditsinskikh nauk (for Rusinov).  
(BRAIN--PHYSIOLOGY) (ELECTROENCEPHALOGRAPHY)

ZHIRMUNSKAYA, Ye.A.; CHLONOV, L.G.

Electrical activity of the brain after a stroke. Zhur.nevr. i  
psikh. 56 no.6:453-459 '56. (MIRA 9:8)

1. Institut nevrologii (dir. prof. N.V.Konovalov) AMN SSSR, Moskva  
(CEREBRAL HEMORRHAGE, physiol.  
EEG)  
(ELECTROENCEPHALOGRAPHY, in various dis.  
cerebral hemorrh.)

ZHIRMUNSKAYA, Ye.A.

Possibilities of electroencephalography in clinical practice.  
Vest.AMN SSSR 12 no.2:29-39 '57. (MIRA 10:10)

1. Institut nevrologii AMN SSSR, Moskva.  
(ELECTROENCEPHALOGRAPHY  
clin. aspects & diag. value)

USSR/Human and Animal Physiology (Normal and Pathological).  
Nervous System. Human Electroencephalogram.

T

Abs Jour: Ref Zhur-Biol., No 17, 1958, 80009.

Author : Konovalov, N.V.; Zhirnanskaya, Ye, A.; Chukhrova, V.A.

Inst :

Title : Electric Activity of the Brain During Hepatolenticular Degeneration.

Orig Pub: Zh. nevropatol. i psikiatrii, 1957, 57, No 5, 584-590.

Abstract: In patients with hepatolenticular degeneration, various pathological electric activity was noted, depending on the seriousness of the illness. Paroxysmal activity was observed during hyperkinesia in patients without epileptic attacks. In 7 of 28 patients, no decline of the EEG from normal was found.

Card : 1/1

AUTHOR: Zhirmunskaya, Ye. A., Senior Scientific Worker SOV/4-58-11-24/31

TITLE: Letters to the Editor (V redaktsiyu prikhodyat pis'ma).  
Where is the Source of Current? (Gde istochnik toka)

PERIODICAL: Znaniye - sila, 1958, Nr 11, p 33 (USSR)

ABSTRACT: In reply to a reader's inquiry to the editor, the author explains that the phenomenon noted by the reader when touching his teeth crown of stainless steel with a spoon was due to the electric current that originated because of the potential difference between 2 unlike metals, the living tissue only playing the role of conductor. There is 1 caricature.

ASSOCIATION: Institut neurologii Akademii meditsinskikh nauk SSSR  
(Institute of Neurology USSR Academy of Medical Sciences)

Card 1/1



ZHIRMUNSKAYA, Ye.A.; KHONDKARIAN, O.A.; YUSEVICH, Yu.S.

Some clinical and electrophysiological problems in multiple sclerosis. Zhur. nevr. i psikh. 65 no.11:1615-1622 '65.

(MIRA 18:11)

1. Institut nevrologii (direktor - prof. N.V.Kononov) AMN SSSR, Moskva.

BEYN, E.S.; ZHIRMUNSKAYA, Ye.A.; LUR'YE, E.L.

Some problems in consciousness disorders in cerebral apoplexy;  
an electroencephalographic study. Zhur. nevr. i psikh. 64  
no.2:191-199 '64. (MIRA 17:5)

1. Institut nevrologii (direktor - prof. N.V. Kononov)  
AMN SSSR, Moskva.

ZHIRMUNSKAYA, Ye.A. (Moskva)

A prominent Czech scientist; 175th anniversary of the birth of  
Jan Purkyne. Priroda 51 no.12:101-102 D '62. (MIRA 15:12)  
(Purkyne, Jan Evangelista, 1787-1869)

ZHIRMUNSKAYA, Ye. A.

Correlation of electroencephalographic and pathological anatomical  
data in cerebral insult. Nauch. trudy Inst. nevr. AMN SSSR no.1:  
241-252 '60. (MIRA 15:7)

1. Institut nevrologii AMN SSSR.

(ELECTROENCEPHALOGRAPHY) (APOPLEXY)

ZHIRMUNSKAYA, Ye.A.

Limits of the normal variations in the individual characteristics  
of the electroencephalogram. Zhur.nerv.i psikh. 62 no.6:862-865  
'62. (MIRA 15:11)

1. Institut nevrologii (dir. - prof. N.V.Kononov) AMN SSSR,  
Moskva.

(ELECTROENCEPHALOGRAPHY)



ZHIRMUNSKAYA, Yelena Aleksandrovna; LANDAU-TYLKINA, S.P., red.;  
PETROVA, N.K., tekhn. red.

[Electrical activity of the brain under normal conditions,  
in hypertension and in cerebral insultus] Elektricheskaya  
aktivnost' mozga v norme, pri gipertonicheskoi bolezni i mozgovom  
insul'te. Moskva, Medgiz, 1963. 174 p. (MIRA 16:6)  
(ENCEPHALOGRAPHY) (CEREBROVASCULAR DISEASE)

ZHIRMUNSKAYA, Ye.A.

Variants of the human electroencephalograms and the standardization  
of methods for their interpretation. Zhur. nevr. i psikh.  
62 no.5:641-647 '62. (MIRA 15:6)

1. Institut nevrologii (dir. - prof. N.V. Konovalov) AMN  
SSSR, Moskva.

(ELECTROENCEPHALOGRAPHY)

ZHIRMUNSKAYA, Ye.A.; POPELYANSKIY, Ya.Yu.

Potentials of the eyeball in the electroencephalogram. Biofizika 4  
no. 4:423-426 '59. (MIRA 14:4)

1. Institut neurologii AMN SSSR.  
(EYE) (ELECTROENCEPHALOGRAPHY)

ZHIRMUNSKAYA, Ye.A.; CHLENOV, L.G. [deceased]

Electrical activity of the brain in acute cerebral hemorrhage.  
Zhur. nerv. i psikh. 60 no. 6:652-658 '60. (MIRA 13:12)

1. Institut nevrologii (dir. - prof. N.V. Kononov) AMN SSSR,  
Moskva.

(ELECTROENCEPHALOGRAPHY) (BRAIN—HEMORRHAGE)

ZHIRMUNSKAYA, Ye. A., Doc Biol Sci -- (diss) "Electrical activity of the brain in hypertonic affection and cerebral insult." Moscow, 1960. 28 pp; (Academy of Medical Sciences USSR); 200 copies; price not given; list of author's work on pp 27-28 (10 entries); (KL, 23-60, 122)



USSR / General Biology. Evolution.

B-6

Abs Jour: Ref Zhur-Biol., No 18, 1958, 81107.

Author: Zhirmunsky, A. B.

Title: The Problem of Intra-Species Differentiation in Sea Anemones.

Orig Pub: Vestn. Leningr. un-ta, 1957, No 21, 140-141.

Abstract: The sensitivity of the Barents Sea and the Black Sea sea anemones to the action of irritants were studied. The action of the reagent, met with in the sphere of ecology - sodium chloride - as well as artificial for sea anemones irritants - ethyl alcohol and potassium chloride - were tested. In regards to alcohol and KCl, the reaction of the sea anemones was the same; in regards to NaCl, however, it was different. The Barents Sea sea anemones, in con-

Card 1/2

42112. ZHIRMUNSKIY, A. M. - Geologicheskie osobennosti tektonicheskikh struktur BSSR.  
CH. I. Izvestiya AKAD. NAUK BSSR, No. 5, 1948, s. 31-38. - Bibliogr. 29 NAZV.

SO: Letopis' Zhurnal'nykh Statey, Vol. 47, 1948

Zhirmunskiy, A. M. "Geological characteristics of the tectonic structures of the Belorussian SSR. Part II: Poles'ye lowland", (Paper read at the Conference for the study of the productive strength of the Poles'ye lowland in June 1948), Izvestiya Akad. nauk BSSR, 1948, No. 6, p. 61-72, - Bibliog: 52 items, (Part I was published in No. 5).

SO: U-3261, 10 April 53, (Letopis 'Zhurna' 'nykh Statey, No. 11, 1949).

ZHIRAUNSKIY, A. M.

"Role and Significance of the Anthropozoic Era in the History of the Earth,"

Iz. v-s. Geograf. Obshch., 80, No. 4, 1948.

ZHIRMUNSKIY, A.M.

Geology, Structural

Data on geomorphology of the western part of the Central Russian Platform. Izv. Vses.  
geog. obshch., 84, No. 1, 1952.

Monthly List of Russian Accessions, Library of Congress, March 1952. UNCLASSIFIED.



ZHIRMUMSKIY, A.M., chlen-korrespondent.

Conference on the geology of the Baltic region. Vest.AN SSSR 23 no.10:133  
0 '53. (MLRA 6:11)

1. Akademiya nauk Belorusskoy SSR.  
(Baltic region--Geology--Congresses) (Congresses--Geology--  
Baltic region)

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 5,  
p 16 (USSR) 15-57-5-5824

AUTHOR: Zhirmunskiy, A. M.

TITLE: Problems and Potentials in the Development of Soviet  
Paleophysiology (Zadachi i perspektivy razvitiya sovet-  
skoy paleofiziologii)

PERIODICAL: Izv. AN BSSR, 1954, Nr 4, pp 141-147.

ABSTRACT: In discussing the principal questions of paleontology,  
the author, citing numerous facts from the literature,  
underscores the possibility and the necessity of  
studying the problems of paleophysiology: the expla-  
nation of the physiological properties of the various  
fossil organisms from the simplest to the most highly  
organized.

Card 1/1

L. D.

ZHIRMUNSKIY, A.M., professor, doktor geologo-mineralogicheskikh nauk

Anaerobic life in the deep layers of the earth, its appearance and effect on rocks and underground waters. Izv. AN BSSR no.2: 101-107 Mr-Apr '55. (MLEA 8:9)

1. Chlen-korrespondent Akademii nauk BSSR  
(Bacteria, Anaerobic)

ZHIRMUNSKIY, A.M., professor.

Outstanding Russian geologist. Izv. AN BSSR. no.5:169-175  
8-0 '55. (MIRA 9:2)

1.Chlen-korrespondent Akademii nauk BSSR.  
(Pavlov, Aleksei Petrovich, 1854-1929)

ZEIRMUNSKIY, A. M.

"Some Debatable Problems of Soviet Geology."

A paper presented on 19 April, The Activity of the Moscow Society of Naturalists, Byulleten' Moskovskogo Obshchestva Ispytateley Prirody Vol. IX.

No 6, Moscow, Nov-Dec 1955, pp 80-90, Geology Section.

Source: U-9235, 29 Nov 1956

ZOLOTAREV, M.A.; PIDOPLICHKO, I.G.; FEDOROV, P.V.; VASIL'YEV, V.N.; IVANOVA, I.K.; GROMOV, V.I.; SOKOLOV, D.S.; ZHIRMUNSKIY, A.M.; PARMUZIN, Yu.P.; PLYUSHIN, I.I.; KATS, N.Ya.; GRICHUK, V.P.; YEFREMOV, Yu.K.; MOSKVIN, A.I.; LEBEDEV, V.D.; TEODOROVICH, G.I.; ZVORYKIN, K.V.; MIKHNOVICH, V.P.; GALITSKIY, V.V.; MAKYEV, P.S.; NIKIFOROVA, K.V.; GORDEYEV, D.I.; YANSHIN, A.L.; DUMITRASHKO, N.V.; SHANTSER, Ye.V.; P'YAVCHENKO, N.I.; FLEBOV, K.K.; PIDOPLICHKO, I.G., doktor biologicheskikh nauk, professor.

Papers presented at the conference on the history of Quaternary flora and fauna in relation to the development of Quaternary glaciation. Trudy Kem.chetv.per. 12:129-189 '55. (MIRA 9:4)

1.Gidrometeorologicheskaya sluzhba (for Zolotarev). 2.Zoologicheskii institut AN USSR (for Pidoplichko). 3.Institut okeanologii AN SSSR (for Fedorov). 4.Botanicheskii institut AN SSSR (for Vasil'yev). 5.Komissiya po izucheniyu chetvertichnogo perioda AN SSSR (for Ivanova). 6.Institut geologicheskikh nauk AN SSSR (for Gromov, Yanshin, Nikiforova, Moskvitin). 7.Moskovskiy geologo-razvedochnyy institut imeni Ordzhonikidze (for Sokolov). 8.Akademiya nauk Belorusskoy SSR (for Zhirmunskiy). 9.Moskovskiy institut inzhenerov vodnogo khozyaystva (for Plyushin). 10.Geograficheskii fakul'tet Moskovskogo gosudarstvennogo universiteta (for Yefremov, Parmuzin). 11.Moskovskiy gosudarstvennyy universitet (for Lebedev, Zvorykin). 12.Institut nefti AN SSSR (for Teodorovich). 13.Transproektkariyer Ministerstva putey soobshcheniya (for Mikhnovich). 14.Vsesoyuznyy aero-geologicheskii trest (for Galitskiy). 15.Sovet po izucheniyu proizvoditel'nykh sil AN SSSR (for Makeyev).

(Continued on next card)

ZOIOTAREV, M.A.----(continued) Card 2.

16. Laboratoriya gidro-geologicheskikh problem AN SSSR (for Gerdeyev).
  17. Institut geografii AN SSSR (for Dumitrashko, Grichuk).
- (Paleontology) (Paleobotany) (Glacial epoch)

ZHIRMUNSKIY, A.M.

In memory of Aleksei Petrovich Pavlov. Izv.Vses.geog.ob-va 87 no.1:  
64-67 J-J '55. (MIRA 8:4)  
(Pavlov, Aleksei Petrovich, 1854-1929)



*ZHIRMUNSKIY, A. M.*

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 7,  
p 51 (USSR) 15-1957-7-9165

AUTHOR: Zhirmunskiy, A. M.

TITLE: The Geotectonic Pulsation Hypothesis of V. A. Obruchev  
and its Application in the Geotectonic Analysis of the  
BSSR and Neighboring Regions. (Geotektonicheskaya  
pul'satsionnaya gipoteza akad. V. A. Obrucheva i yeyo  
primeneniye pri geotektonicheskom analize territorii  
BSSR i sosednikh oblastey)

PERIODICAL: Izv. AN BSSR. Ser. fiz.-tekhn. n., 1956, Nr 3, pp 85-95

ABSTRACT: The history of the geological development of the BSSR  
is examined in the light of the geotectonic pulsation  
theory of Obruchev, Usov, and others.

Card 1/1

ZHYRMUNSKI, A.M.

Formation of loess soils in the Ukraine and White Russia, Vestsi AN  
BSSR. Ser. fiz.-tekh. nav. no.4:15-21 '56. (MLRA 10:6)

1. Chlen-korrespondent Akademii nauk BSSR.  
(Ukraine--Loess) (White Russia--Loess)

ZHIRMUNSKIY, A.M. (Leningrad)

At the all-Union conference on geothermics. Priroda 45 no.7:106-107  
Jl '56. (MLRA 9:9)

1. Chlen-korrespondent Akademii nauk BSSR.  
(Earth temperature)

*zhirmunskiy, A. M.*

15-57-5-6093

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 5,  
p 55 (USSR)

AUTHOR: Zhirmunskiy, A. M.

TITLE: The Problem of Geothermal Energy (K voprosu o geo-  
termoenergetike--in Belorussian)

PERIODICAL: Izv. AN BSSR, ser. fiz-tekhn. n., 1956, Nr 2, pp 21-35.

ABSTRACT: Bibliographic entry

Card 1/1

ZHIRMUNSKIY, A. M.

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 7,  
pp 32-33 (USSR) 14-57-7-14468

AUTHOR: Zhirmunskiy, A. M.

TITLE: Academician V. A. Obruchev's Geotectonic Pulsation Theory and Its Application to Geotectonic Analysis of the Belorussian SSR and Adjoining Areas (Geotektonicheskaya pul'satsionnaya teoriya akademika V. A. Obrucheva i yeye prilozheniye k geotektonicheskomu analizu territorii BSSR i sosednikh oblastey--in Belorussian)

PERIODICAL: Izv. AN BSSR, ser. fiz.-tekhn. n., 1956, Nr 3, pp 85-95

ABSTRACT: Successful analyses of the tectonics of the Belorussian SSR would be impossible without V. A. Obruchev's pulsation theory. Tectonic pulsations occurred in these areas during the development of

Card 1/2

Academician V. A. Obruchev's Geotectonic Pulsation Theory (Cont.) 14-57-7-14468

Precambrian, Caledonian, Variscian, Alpine, and recent tectonic structures. This fact is of both theoretical and practical importance.

Card 2/2

FEYGIN, Ya.G., doktor ekon. nauk; YANITSKIY, N.F., doktor geogr. nauk; ZHIRMUNSKIY, M.M., doktor geogr. nauk; ALAMPIYEV, M.P., doktor ekon. nauk; KOSTENNIKOV, V.M., kand.ekon. nauk; BUYANOVSKIY, M.S., kand. geogr. nauk; SHISHKIN, N.I., doktor geogr. nauk; MOSKVIN, D.D., kand.ekon. nauk; GURARI, Ye.L., kand.ekon.nauk; VETROV, A.S., kand.geogr. nauk; LISETSKAYA, A.P., red.; PONOMAREVA, A.A., tekhn. red.

[Methodological problems of economic geography] Metodologicheskie voprosy ekonomicheskoi geografii. Moskva, Ekonomizdat, 1962. 278 p. (MIRA 15:7)

1. Chlen-korrespondent Akademii nauk USSR i Institut ekonomiki Akademii nauk SSSR (for Feygin).
  2. Institut geografii Akademii nauk SSSR (for Yanitskiy, Zhirmunskiy, Buyanovskiy).
  3. Institut ekonomiki mirovoy sotsialisticheskoy sistemy Akademii nauk SSSR (for Alampiyev).
  4. Gosudarstvennyy nauchno-ekonomicheskiy sovet Soveta Ministrov SSSR (for Kostennikov).
  5. Nauchno-issledovatel'skiy institut truda Gosudarstvennogo komiteta Soveta Ministrov SSSR (for Shishkin).
  6. Institut ekonomiki Akademii nauk SSSR (for Moskvina).
  7. Orenburgskiy pedagogicheskiy institut (for Vetrov).
- (Geography, Economic—Methodology)

KHASHEGANU, Mikhail [Haseganu, Mihail], prof.; GIKA, G.[Chica, G.];  
KHOLAN, A.[Holan, A.]; SYMBOAN, S.[Simboan, S.]; MOKANU, K.  
[Mocanu, K.]; MUNTYANU, T.[Munteanu, T.]; ALEKSANDRU, D.  
[Alexandru, D.]; IOVENESCU, M.[Iovinescu, M.]; DZHAMO, N.  
[Djamo, N.]; KCZHEVNIKOVA, Ye.V.[translator]; KORMANOV, Yu.F.  
[translator]; LEONOV, V.M.[translator]; MOZHAROV, N.D.  
[translator]; ZHIRNUSNIIY, M.M., red.; TOPORKOV, G.N., red.;  
YANKOVICH, O.Yu., doktor, red.; BELEVA, M.A., tekhn. red.

[The economic geography of the Rumanian People's Republic]  
Ekonomicheskaia geografiia Rumynskoi Narodnoi Respubliki.  
Kniga napisana kolektivom avtorov pod rukovodstvom Mi-  
khaila Khasheganu. Moskva, Izd-vo inostr. lit-ry, 1961.  
551 p. Translated from the Rumanian. (MIRA 15:4)  
(Rumania--Economic geography)



ZHIRMONSKIY, M.M.

Economic regionalization in the European people's democracies. Izv.  
AN SSSR. Ser. geog. no.5:100-106 S-O '61. (MIR 14:9)  
(Europe, Eastern--Economic zoning)

ZHIRMUNSKIIY, V. M.

"Sredneaziatskiye narodnye skaziteli (traditsiya i tvorcheskaya improvizatsiya)."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences,  
Moscow, 3-10 Aug 64.

✓ Application of the electrometric sound for the  
of pH with quinhydrone and glass electrodes  
and of quinhydrone with glass electrodes  
was applied to the measurement of pH in  
solutions. The results of pH measurements by this  
method were compared with those obtained potentiometrically.  
The difference was not more than 0.1 unit of pH. This  
method can be utilized for potential measurement  
of solutions containing quinhydrone.

ZIRNAUSKAS, Yokubas

Kaunas, Lithuanian Acad. Sci.

"Paper Electromerty" Chemische Technik, No. 3, 1958. Uncl.

ZHIRNOV

**AUTHOR:** None Given 72-2-18/20

**TITLE:** The Production of Glass in the Ukrainian SSR Must be Developed  
(Razvivat' proizvodstvo stekla v USSR)  
From the Technical Conference of Representatives of the Glass Industry  
(S tekhnicheskogo soveshchaniya rabotnikov stekol'noy promyshlennosti).

**PERIODICAL:** Steklo i Keramika, 1958, Nr 2, pp. 43-45 (USSR)

**ABSTRACT:** This conference was called by the Ministry for the Industry of Building Materials of the Ukrainian SSR as well as by the Ukrainian and Stalin-Regional NTO for Building Materials and took place on December 10-12, 1957 at Konstantinovka. The minister for the building material industry of the Ukrainian SSR, Moroz, opened the conference and stressed the fact that the production of glass must be increased. The following reports were further delivered:

- 1.) Patenko, (Deputy Minister for the Building Material Industry) spoke about the present stage of the glass industry, and pointed out what work must be carried out in future.
- 2.) Solinov (Director of the Institute for Glass) gave a report concerning new kinds of glass products for dwelling- and industrial buildings and how they are to be properly used in practice.

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The Production of Glass in the Ukrainian SSR Must be  
Developed. From the Technical Conference of Representatives  
of the Glass Industry

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- 3.) Dubrovskiy (Director of the Ukrainian Branch of the Institute for Glass) described the work carried out by this institute.
- 4.) Tykachinskiy (Institute for Glass) gave a detailed description of the part played by the factors determining the intensity of the process of glass melting.
- 5.) Zhirnov ("Proletariy" plant) spoke about the success achieved by this plant.
- 6.) Lev (Representative of the Giprosteklo Institute) spoke about the distribution of new products.
- 7.) Alekseyev (Academy for Building and Architecture of the USSR) spoke about the assortment, quality, and value of building glass.
- 8.) Il'inskiy (Head of the Pyrometric Department of the Giprosteklo) spoke about the perfecting of glass smelting furnaces during future repair work.
- 9.) K.I. Borisov (FKB of the Institute for Glass) spoke about improved constructions of glass smelting furnaces and flues.

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The Production of Glass in the Ukrainian SSR Must be Developed. From the Technical Conference of Representatives of the Glass Industry

72-2-18/20

- 10.) Solomin, Professor (Institute for Glass) spoke about refractories for tank furnaces.
- 11.) Pronin (Lisichansk Works) reported about dinas products of high stability.
- 12.) Bondarev (Director of the "Avtosteklo" Works, Konstantinovka) dealt with prospects for building glass.
- 13.) Firer (Representative of the Gomel Plant) spoke about the production and use of glass tubes and foam glass.
- 14.) Zabkov (Director of the Plant imeni October Revolution) spoke about the prospects of the production of special glass products.
- 15.) Bazhbeyk-Melikov (Scientific Collaborator of the Institute for Glass) gave a report on building glass blocks.
- 16.) Abakumov (Chief Engineer of the Skopino Works) spoke about the production of glass blocks in this plant.
- 17.) Shatokhin (Institute for Glass), Polik (Institute for Glass Fibres), Koryagina (Ivotsk Plant) spoke about glass fibres.

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The Production of Glass in the Ukrainian SSR Must be Developed. From the Technical Conference of Representatives of the Glass Industry

72-2-18/20

- 18.) Pereferiyenko (Director of the Glass Works at Lvov) spoke about plate glass of high quality.
- 19.) Myasnikov (Dotsent of the Polytechnic Institute of Kiyev) spoke about the production of glass tiles.
- 20.) Reznikov (PKB of the Institute for Glass), Minakov ("Avto-steklo" Works, Konstantinovka), Dolbin ("Proletariy" Works), Kolesnikov (Plant imeni October Revolution), Zhirnov (TsKB MPSM Ukrainian SSR) spoke about problems of mechanization.
- 21.) Pod'yel'skiy spoke about the packing of glass.
- 22.) Baklanov (Head of the Sovnarkhose Stalinsk) spoke about the development of new building materials in that province.
- 23.) Potanin (Deputy Chief of the Department for Building Materials of the Gosplan USSR) spoke about general problems of the glass industry.

Decisions were made with a view of increasing the efficiency and the quality of the products of glass works and the works producing

Card 4/5



The Production of Glass in the Ukrainian SSR Must be  
Developed. From the Technical Conference of Representatives  
of the Glass Industry

72-2-18/20

refractories. On the basis of the Ukrainian branch it is intended  
that a Ukrainian Scientific Research Institute for Glass be  
established at Konstantinovka.

AVAILABLE: Library of Congress

Card 5/5

"APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R002064820005-4

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R002064820005-4"

ABSTRACT: The Hall effect and the magnetoresistance were measured in n-type and p-

"APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R002064820005-4

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R002064820005-4"



L 24218-65 ENT(m)/EPF(o)/EPF(n)-2/EPR Pr-4/Ps-4/Pu-4 DM

ACCESSION NR: AP5001288

S/0089/64/017/008/0463/0474

AUTHOR: Kurchatov, I. V.; Feynberg, S. M.; Dollezhal', N. A.; Aleshchenkov, P. I.; Drozdov, F. S.; Yemel'yanov, I. Ya.; Zhirnov, A. D.; Kazachenko, M. A.; Knyazeva, G. D.; Kondrat'yev, F. V.; Lavrenikov, V. D.; Morgunov, N. G.; Petunin, B. V.; Smirnov, V. P.; Talyzin, V. M.; Filippov, A. G.; Chikhladze, I. L.; Chulkov, P. M.; Shevelov, Ya. V.

TITLE: Pulse graphite reactor<sup>14</sup> IGR

SOURCE: Atomnaya energiya, v. 17, no. 6, 1964, 463-474

TOPIC TAGS: pulse graphite reactor, high neutron flux pulse, nuclear reactor

ABSTRACT: The paper is a summary of the SSSR #322a report at the International Conference on Peaceful Uses of Atomic Energy in Geneva, 1964. It represents an elaboration of the description of the pulse graphite reactor IGR given by S. M. Feinberg at the Second International Conference. The pulse reactors are used when a high neutron flux is desirable. The described reactor was in opera-

Card 1/2

L 24218-65

ACCESSION NR: AP5001268

tion for several years, and is still working without failure. Orig. art. has: 6 figures

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: NP

NR REF SOV: 002

OTHER: 001

Card 2/2





The CH (C-1) Research Reactor with a  
Capacity of 50 Mw

5/28/60/006/06/01/021  
3006/0065 82002

core, pressed from uranium oxide powder and electrolytic nickel, the  
core is contained in a nickel can. Fig. 6 shows a section through the  
assembly. Fig. 7 shows another section through a fuel element. Data of one  
fuel element are compiled every element contains 12.5 g U<sup>235</sup>. The cylindrical  
rod (Fig. 8) divides the inner reactor cavity into two zones.  
The function of the rod is to regulate the power level and the cooling water  
circulation. This system consists of four automatic regulators with two  
regulation rods each, four static rods, and four automatic regulators with two  
also be used as static rods. The automatic regulators with two  
regulation chambers located outside the reactor body is operated by 15  
power range from 0.5 to 100%. Several details concerning the  
static rods are thoroughly discussed. Reactor shield: Fig. 8 shows  
cross section through reactor plus shield. The latter consists of steel  
extrusion, concrete, a few details are described, and the process of steel  
it consists of primary duct with the cooling system is finally discussed.  
circulating pump (300 l/h, 10 atm) the heat exchange power is 15 Mw.

Card 4/5

There are 8 figures and 1 chart reference.  
RECEIVED: March 15, 1960

Card 5/5

7

ACC NR: AP6034109

(A)

SOURCE CODE: UR/0089/66/021/004/0321/0322

AUTHOR: Bulkin, Yu. M.; Zhirnov, A. D.; Konstantinov, L. V.; Nikolayev, V. A.; Ganev, I. Kh.; Lobanov, V. S.; Poppel', B. S.

ORG: none

TITLE: The SO-1 neutron multiplier

SOURCE: Atomnaya energiya, v. 21, no. 4, 1966, 321-322

TOPIC TAGS: nuclear research reactor, thermal neutron, fast neutron, reactor neutron flux/ SO-1 neutron multiplier

ABSTRACT: The authors describe a neutron multiplier which they have developed to operate with thermal neutrons, having a rated power 0.5 watt, a neutron multiplication coefficient 0.997, maximum fluxes in the center of the active zone  $2.5 \times 10^7$  and  $7 \times 10^7$  neut/cm<sup>2</sup>-sec for thermal and fast neutrons, respectively, and a flux of  $10^7$  neut/cm<sup>2</sup>-sec at the locations where the experiments are performed. The fuel is uranium dioxide immersed in polyethylene, containing 900 g of U<sup>235</sup> (36% enrichment) per load. The moderator is polyethylene, and the reflector is graphite combined with polyethylene. The individual units and the control of the multiplier are briefly described. Advantages claimed for the multiplier are ease of control, protection against nuclear accidents, transportability (can be transported with a 10-ton truck), and simple construction. Possible applications of the neutron multiplier are for geological prospecting, activation analysis of isotopes and other materials, and medical applications.

Card 1/2

ACC NR: AP6034109

Similar work on the construction of neutron multipliers by a group headed by N. V. Zvonov and T. A. Lopovok is also reported. Orig. art. has: 1 figure.

SUB CODE: 18,24/ SUBM DATE: 00

Card 2/2

ACC NR: AP7000783

(A,N)

SOURCE CODE: UR/0089/66/021/005/0363/0368

AUTHOR: Bulkin, Yu. M.; Zhirnov, A. D.; Zhemchuzhnikov, G. N.; Konstantinov, L. V.; Nikolayev, V. A.; Stenbok, I. A.; Lobanov, V. S.; Filippov, A. G.; Khryastov, N. A.

ORG: none

TITLE: Research and educational reactor IR-100

SOURCE: Atomnaya energiya, v. 21, no. 5, 1966, 363-368

TOPIC TAGS: research reactor, nuclear reactor characteristic/ IR-100 reactor

ABSTRACT: The authors describe the construction, the physical and technical characteristics, and the experimental capabilities of a research reactor with thermal rating of 100 kw, intended for scientific research work and also for training of specialists in the field of atomic energy. This is a water-cooled and water-moderated swimming-pool reactor with all the equipment situated in a central building. It uses enriched  $UO_2$  (10%), with a minimum critical mass of 2.6 kg of  $U^{235}$ , and a graphite reflector. The maximum thermal and fast neutron fluxes are  $2 \times 10^{12}$  and  $2.2 \times 10^{12}$ , respectively. The various channels and the possible research that can be carried out with the reactor, as well as the general construction, are described in some detail. Orig. art. has: 2 figures and 2 tables.

SUB CODE: 18/ SUBM DATE: 28 Jul 66/ ORIG REF: 002/ OTH REF: 003

Cord 1/1

UDC: 621.039.520.21

ACCESSION NR: AT4019050

S/0000/63/000/000/0207/0210

AUTHOR: Avayev, V. N.; Yegorov, Yu. A.; Yemel'yanov, I. Ya.; Zhirnov, A. D.; Orlov, Yu. V.; Remizov, V. A.

TITLE: The Gamma-spectrum of a research reactor

SOURCE: Voprosy\* fiziki zashchity\* reaktorov; sbornik statey (Problems in physics of reactor shielding; collection of articles). Moscow, Gosatomizdat, 1963, 207-210

TOPIC TAGS: reactor, reactor shielding, reactor Gamma spectrum, Gamma spectrum

ABSTRACT: By means of a scintillation vapro spectrometer, the  $\gamma$ -spectrum of a water-water, pool-type research reactor was measured. The gamma quanta were directed from the active section of the reactor to the spectrometer through a lateral experimental channel, 100 mm in diameter and 2.5 m in length. To exclude the influence of gamma quanta scattered in the channel, a lead collimator, 180 mm in length with a collimation aperture diameter of 10 mm, was inserted in the channel. The spectrometer sensor was placed behind the concrete shielding of the reactor, and the gamma quanta flow passed through a 260-mm long collimator of paraffin with boron and lead carbide. Since the spectrometer was neutron-sensitive, even if only to a negligible degree, tests were conducted under identical conditions with a 100-mm thick bismuth filter and the introduction

1/3

Card

ACCESSION NR: AT4019050

of the proper corrective factor. The results of the experiment are discussed and analyzed. The reactor spectrum was measured to approximately 7.8 Mev. No gamma lines with greater energy were detected, the explanation for this being that in the high energy region the  $\gamma$ -radiation is basically caused by the absorption of neutrons by iron, nickel and chromium. These elements are not present in the active part of the reactor, while the  $\gamma$ -radiation yield from the tube of the gate valve is small and only a negligible part of the trapped gamma quanta is able to reach the spectrometer sensor from the tube. Orig. art. has: 2 figures and 2 tables.

ASSOCIATION: None

SUBMITTED: 14Aug63

DATE ACQ: 27Feb64

ENCL: 01

SUB CODE: NS

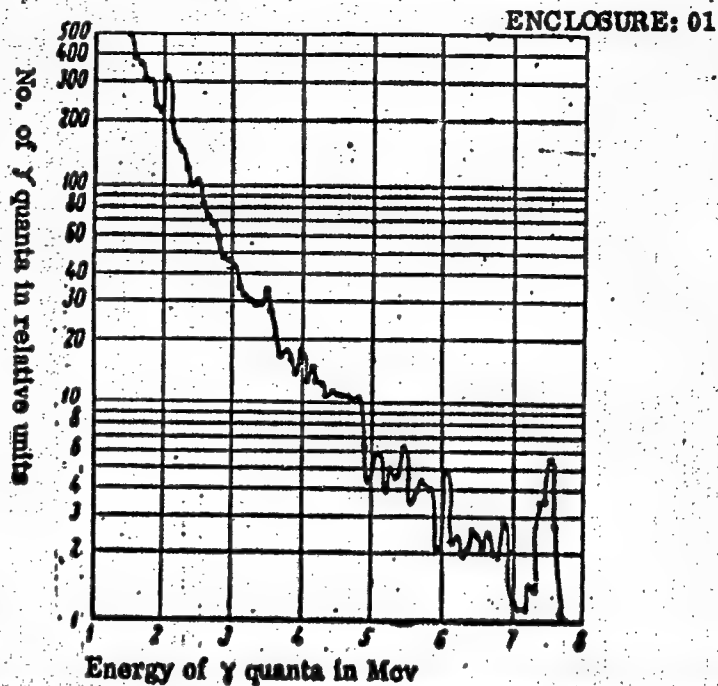
NO REF SOV: 005

OTHER: 001

Card 2/3

ACCESSION NR: AT4019050

Fig. 1 - Gamma-spectrum  
of the reactor.



Card 3/3

DOLEZAL, R. A.; ALESHCHENKOV, P. I.; YEMELIANOV, I. Ya.; ZILINOV, A. D.; ZVEREVA, G. A.;  
MORGUNOV, N. G.; KRYUKOV, K. A.; MITYAYEV, Yu. I.; KNYAZEVA, G. D.

"Development of superheating power reactors of Beloyarsk nuclear power station  
(BAES) type."

report submitted for 3rd Intl Cong, Peaceful Uses of Atomic Energy, Geneva,  
31 Aug-9 Sep 64.



SHEVELEV, Ia. V.; ZHIRNOV, A. D.; TALYZIN, V. M.

"Potentialities of pulsed reactors."

report submitted for 3rd Intl Conf, Peaceful Uses of Atomic Energy, Geneva,  
31 Aug-9 Sep 64.

ACCESSION NR: AP4041446

S/0089/64/016/006/0489/0496

AUTHORS: Aleshchenkov, P. I.; Mityatev, Yu. I.; Knyazeva, G. D.;  
Lunina, L. I.; Zhirnov, A. D.; Shuvalov, V. M.

TITLE: The Beloyarsk atomic electric station

SOURCE: Atomnaya energiya, v. 16, no. 6, 1964, 489-496

TOPIC TAGS: nuclear power, nuclear power reactor, nuclear power-  
plant, reactor control, reactor core, reactor coolant, reactor  
operation

ABSTRACT: The first and second reactors of the Beloyarsk atomic  
power station, with an electric output of 1000 megawatts, are de-  
scribed. These are uranium-graphite reactors of the pressurized  
water type, with the tubes used for both steam generation and  
superheating. Several advantages claimed for this construction,  
which is similar to that used in the first atomic station of the

Card 1/5

ACCESSION NR: AP4041446

SSSR, are listed. The graphite stacks are the same in both reactors, which differ in the number of control rods, the excess reactivity, and the sizes of the steam tubes. One reactor is cooled by one double-circulation loop and feeds a 100 MW turbine which uses 480--510C and 90--100 atm steam. The second reactor operates with a single-circulation two-loop system, each feeding a 100 MW turbine at 500C and 90 atm. The most important experiments preceding the construction of the station are described: cooling the working channels with boiling water, nuclear steam superheating, determination of the transport of activity by the steam, tests of the fuel elements, and others. Ways of improving the economic performance of the station are indicated. The thermodynamic diagram and the main characteristics of a reactor of analogous construction for 1000 MW power, using supercritical water as a coolant, are described in conclusion. Orig. art. has: 5 figures and 1 table.

ASSOCIATION: None

Card 2/5

ACCESSION NR: AP4041446

SUBMITTED: 27Apr64

ENCL: 02

SUB CODE: NP, IE

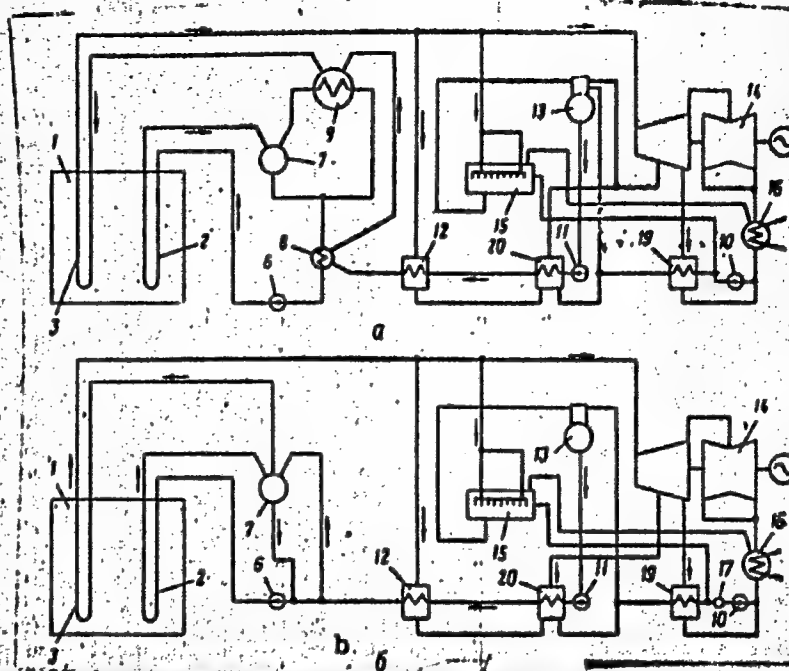
NR REF SOV: 005

OTHER: 001

Card 3/5

ACCESSION NR: AP4041446

ENCLOSURE: 01

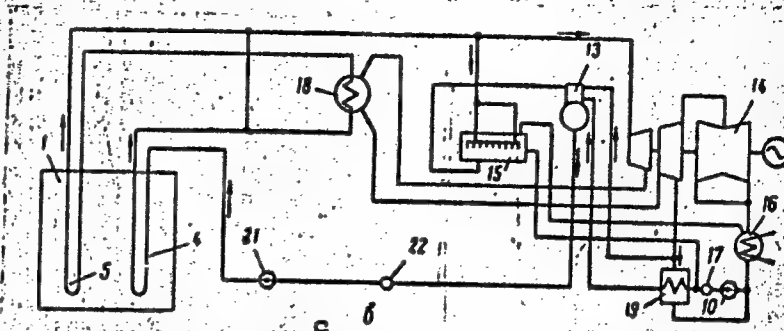


Card 5/5

ACCESSION NR: AP4041446

ENCLOSURE: 02

Principal heat flow diagrams: a, b - 1st and 2nd Beloyarsk reactors, c - reactor with supercritical carrier parameters.



1 - reactor, 2 - evaporation channel, 3 - steam heating channel, 4 - 1st superheat channel, 5 - 2nd superheat channel, 6 - circulating pump, 7 - steam superheater, 8 - preheater, 9 - evaporator, 10 - condensate pump, 11 - feedwater pump, 12 - superheat regulator, 13 - deaerator, 14 - turbine generator, 15 - surge tank, 16 - condenser, 17 - condensate purifier, 18 - commercial superheater, 19 - regenerative low-pressure preheater, 20 - regenerative high-pressure preheater, 21 - feedwater turbine pump, 22 - booster pump

Card 5/5

"APPROVED FOR RELEASE: 07/19/2001

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APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R002064820005-4"

KURCHATOV, I.V., [deceased]; FEYNBERG, S.M.; DOLLEZHAL', N.A.;  
ALESHCHENKOV, P.I.; DROZDOV, F.S.; YEMEL'YANOV, I.Ya., ZHIRNOV,  
A.D.; KAZACHENKO, M.A.; KNYAZEVA, G.D.; KONDRAT'YEV, F.V.;  
LAVRFNIKOV, V.D.; MORGUNOV, N.G.; PETUNIN, B.V.; SMIRNOV, V.P.;  
TALYZIN, V.M.; FILIPPOV, A.G.; CHIKHLADZE, I.L.; CHULKOV, P.M.;  
SHEVELEV, Ya.V.

Pulse graphite reactor IGR. Atom. energ. 17 no.6:463 D '64  
(MIRA 18:1)

ACC NR: AFG034108 (A) SOURCE CODE: UR/0089/66/021/004/0319/0321

AUTHOR: Bulkin, Yu. M.; Zhirnov, A. D.; Konstantinov, L. V.; Nikolayev, V. A.; Stenbok, I. A.; Lobanov, V. S.; Benevolenskiy, A. M.

ORG: none

TITLE: RG-1 reactor for geological research

SOURCE: Atomnaya energiya, v. 21, no. 4, 1966, 319-321

TOPIC TAGS: thermal reactor, research reactor, geologic research facility, tracer study, radioactive source/ RG-1 research reactor

ABSTRACT: The reactor described is of the swimming-pool type rated at 5 kw thermal. It is intended for the production of radioactive isotopes with different half-lives, for activation analysis of technological and geological samples, and for estimates of the absorbing abilities of solid and liquid materials and alloys, and also for use in conjunction with a group of laboratories (radiochemical laboratory, laboratory for exact radiometric measurements, and other specialized facilities) for the development of new engineering and technical research methods using radioactive isotopes. The fuel is  $UO_2$  (10% enrichment) and the critical load is 2.6 kg of  $U^{235}$ . The reflector is made of graphite blocks clad in aluminum. The core and reflector are placed in a water-filled aluminum tank (1500 mm dia, 3500 mm high). Boron steel control rods are used. There are altogether seven different channels located in areas with different thermal and fast neutron flux densities (up to  $10^{11}$  neut/cm<sup>2</sup>-sec). The maximum pro-

Card 1/2

L 000/8-07

ACC NR: AF6034108

ductivity reaches 2600 millicurie when 8 standard ampoules with  $KMnO_4$  are used (maximum 400 mCu in one ampoule). The auxiliary equipment used to handle the radioactive material and to control the reactor are briefly described. Orig. art. has: 2 figures.

SUB CODE: 18, 08/ SUBM DATE: 00 / ATD PRESS: 5102.

nuclear metallurgy

Card

2/2 *plw*

ACC NR: AP6035746

(A)

SOURCE CODE: UR/0413/66/000/019/0109/0109

INVENTORS: Balandin, M. P.; Volosatov, A. K.; Antonenko, I. Ya.; Bushteto, P. P.;  
Zhirnov, A. I.; Ivanov, Yu. V.; Kruglyakov, M. L.; Mordukhovich, A. I.; Popov, F.  
K.; Smetnev, S. D.; Fanfaroni, F. I.; Shcherbakov, A. M.; Krivoshey, M. N.

ORG: none

TITLE: A device for broadcasting pesticides and meliorating substances. Class 45,  
No. 166787 [announced by All-Union Scientific Research Institute for Mechanization of  
Agriculture (Vsesoyuznyy nauchno-issledovatel'skiy institut mekhanizatsii sel'skogo  
khozyaystva)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 19, 1966, 109

TOPIC TAGS: agricultural machinery, agricultural engineering, broadcasting operation,  
pesticide, fertilizer

ABSTRACT: This Author Certificate presents a device for broadcasting pesticides and  
meliorating substances. The device contains a tank divided into sections, broadcasting  
mechanisms, receiving chambers of the fertilizer duct, and a driving mechanism. To  
provide for a uniform broadcasting of a material, the broadcasting mechanisms are  
made in the shape of cones mounted on a common shaft carrying a spiral with the  
opposite direction of coil loops. Every revolving cone may be spring loaded and may

UDC: 631.333.9

Card 1/2

ACC NR: AP6035746

be contained, together with a receiving chamber, in a common casing.

SUB CODE: 02, <sup>06</sup>/<sub>27</sub> SUBM DATE: 23Apr65

Card 2/2

ZHIRNOV, A.M.

Increasing the wear-resistance of equipment used in the coke chemical industry. Koks i khim.no.6:57-62 '56. (MLRA 9:10)

1.Glavkoks.

(Coke industry--Equipment and supplies)

ZHIRNOV, A.M., inzhener.

High-frequency hardening of replaceable parts for equipment of  
coke plants. Koks i khim. no.2:60-63 '55. (MLRA 9:3)  
(Cementation (Metallurgy))



LOPATKIN, N.A., kand. med. nauk.; ZHIRMOV, A.P., kand. med. nauk.

Attachment to the URD-110-k<sup>4</sup> x-ray apparatus for serial angiography.  
Vest. rent. i rad. 3<sup>4</sup> no.1:67-68 Ja-F '59. (MIRA 12:3)

1. Iz urologicheskoy kliniki (zav. samostoyatel'nyy kursom urologii -  
prof. A.Ya. Pytel') II M<sub>o</sub>skovskogo meditsinskogo instituta imeni N.I.  
Pirogova i eksperimental'nykh masterskikh (zav. D.S. Mitkevich)  
Gosudarstvennogo nauchno-issledovatel'skogo instituta rentgenologii  
i radiologii (dir. - dokt. I.G. Lagunova) Ministerstva zdavookhraneniya  
RSFSR, Adres avtora: Moskva, Leninskiy pr., d. 20, kv. 9.

(ANGIOGRAPHY

serial, attachment for x-ray appar. URD-110-k<sup>4</sup> (Rus))

ZHIRNOV, Anatoliy Petrovich, SOLOV'YEV, F.I., red.; BUL'DYAYEV, N.A., tekhn.  
red.

[Repair of protective casings and replacement of X-ray tubes in them;  
instructions] Remont zashchitnykh kozhukhov i smena rentgenovskikh  
trubok v nikh; metodicheskie ukazaniia. Moskva, Gos. izd-vo med. lit-ry  
1958. 30 p. (MIRA 11:9)

(X rays--Equipment and supplies)

AVROV, Aleksey Nikolayevich,; ZHIRNOV, A.V., red.; BORUNOV, N.I., tekhn. red.

[Using electron-tube oscillators for electrothermics] Eksploataatsia  
lampovykh generatorov dlia elektrotermii. Moskva, Gos. energ. izd-vo,  
1958. 165 p. (MIRA 11:12)

(Oscillators, Electron-tube)  
(Electric heating),

ZHIRNOV, A.Ya., inzh.

Safety appliance for circular saws. Bezop.truda v prom. 3  
no.5:32 My '59. (MIRA 12:8)  
(Circular saws)

AUTHOR: Zhirnov, A.Z., Engineer SOV/99-58-10-3/13

TITLE: Ponds With a Full Storage Capacity for Spring Run-Off Waters  
(Prudy s polnoy akkumulyatsiyey vesennego stoka)

PERIODICAL: Gidrotekhnika i melioratsiya, 1958, Nr 10, pp 17-23 (USSR)

ABSTRACT: From 1949-1953 the author studied the capacity of water reservoirs for spring waters in the Orlovskaya Oblast'. He came to the conclusion that it was very useful to build dams at ponds with a water-collecting area of up to 5 km<sup>2</sup>, to save the expenses of new water reservoir construction. He recommends the application of asbestos-cement tubes for the water discharge. Another advantage is that dams up to a height of 10 m can be constructed without drainage. Hydrological calculations should be based on the operation of the ground water discharge during the period of flood waters. There are 2 tables, 2 graphs and 3 diagrams.

1. Inland waterways--Development 2. Floods--Control

Card 1/1

ZHIRNOV, A.Z., inzh.

Reservoirs capable of holding the entire spring runoff. Gidr. 1 mel.

10 no.10:17-23 0 '58.

(MIRA 11:11)

(Reservoirs) (Runoff)

ZHIRNOV, A.Z.

Water discharge pipes installed in ponds and reservoirs of collective farms.  
Gidr.1 mel. 5 no.12:24-29 D '53.

(MIRA 6:11)

(Spillways)

ZHIRNOV, B.F.

Characteristics of photosynthesis in sunflower varieties with high and low oil content. Fiziol. rast. 9 no.3:318-324 '62.

(MIRA 15:11)

1. All-Union Research Institute of Oil and Essential Crops,  
Krasnodar.

(Sunflowers--Varieties) (Photosynthesis)



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the angle of the structure according to the wind direction. The  
head is equipped with a rocket motor. The structure is

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APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R002064820005-4"

AUTHOR: Zhirnev, D.F., Engineer

SOV/129-59-3-4/16

TITLE: Influence of Alloying on Hardening and Softening of Iron-base Heat-resistant Alloys (Vliyaniye legirovaniya na uprochneniye i razuprochneniye zharoprochnykh splavov na zheleznoy osnove)

PERIODICAL: Metallovedeniye i Termicheskaya Obrabotka Metallov, 1959, Nr 3, pp 17 - 19 (USSR)

ABSTRACT: Results are described of investigations of the influence of various alloying elements on the processes of hardening and softening of iron-base alloys at elevated temperatures, paying particular attention to recrystallisation. Experimental iron-base alloys (13% Cr, 8% Ni and 8% Mn) were studied which were alloyed with various elements. During the individual alloying experiments, the influence of the following elements was studied: C, V, Al, Mo, W and Nb. The maximum concentration of the alloying elements did not exceed 3 at.%, which corresponds approximately to the content of such elements in real iron-base high-temperature alloys. Heats were produced in which each of the above mentioned elements varied within the following limits: 0-0.6% C, 0-2.4% V, 0-1.4% Al, 0-5% Mo, 0-8% W and 0-2.8% Nb. In the case of alloys with

Card1/6

SOV/129-59-3-4/16

Influence of Alloying on Hardening and Softening of Iron-base  
Heat-resistant Alloys

V, Al, Nb, W and Nb, no additional carbon was introduced and its content was below 0.07%; the presence of additional carbon would have complicated the study of the influence of other elements in the pure form. The blanks from all the alloys were quenched in water from 1 180 °C, ensuring an equal initial grain size of the austenite. For investigating the influence of alloying elements on the recrystallisation, cylindrical specimens (h = 18 mm, d = 12 mm) were subjected to a 50% reduction followed by heating for 5 hours at various temperatures. After heating at each of these temperatures, the hardness of the specimens was measured and heating temperature-hardness curves were determined which characterise the intensity of softening of the work-hardened alloy. Thus, it can be seen by comparing the softening curves of alloys with vanadium and those with tungsten (both graphed in Figure 1) that vanadium has almost no influence on the softening of the basic solid solution, whilst tungsten slows down appreciably the process of softening. By means of microstructural analysis, a relation was established

Card2/6

SOV/129-59-3-4/16

Influence of Alloying on Hardening and Softening of Iron-base  
Heat-resistant Alloys

between the change in the hardness of work-hardened alloys during annealing and the recrystallisation temperature and also the influence of alloying elements on the recrystallisation. The temperature range in which the hardness of the deformed alloys drops sharply corresponds to the temperature range of the beginning of recrystallisation. Instead of stretched grains which are orientated in the direction of deformation, a large quantity of very fine grains occurs in the structure of the alloy which apparently are germinated in the most highly stressed sections of the deformed alloy. With increasing temperature the hardness of the alloy continues to decrease but this decrease is very slow and continuous and corresponds to the character of the structural changes, namely, to the gradual growth of new grains. In Figure 2, the microstructure photographs are reproduced of an alloy containing 4.52% W after quenching from 1180 °C, deformation (50% reduction) and annealing at 750, 800 and 850 °C. After annealing at 750 °C, signs of

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recrystallisation are not yet apparent; at 500 times magnification no new recrystallisation grains could be detected. Dark sections with increased liability to etching represent a system of densely distributed sliding lines. Annealing at 800 °C leads to a break-up of the texture, which indicates the beginning of recrystallisation; the sensitivity to etching increases sharply. An increase in the annealing temperature to 850 °C brings about an almost complete cessation of the old deformed grains and emergence of a recrystallised structure with fine uniform grains. The selective recrystallisation of an alloy containing 4.52% W begins at 900 to 950 °C. At 900 °C individual larger grains emerge which could not be observed after annealing at 850 °C. At 950 to 1 000 °C, there is a very intensive growth of the grains; at about 1 000 °C, their dimensions reach approximately 4 balls. The recrystallisation temperatures of other alloys, as a function of alloying, were determined in an analogous manner. In Figure 3, the dependence is graphed of the temperature of recrystallisation treatment on the content of alloying

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elements. It can be seen that, of all the investigated elements, tungsten impedes recrystallisation of austenitic Fe-Cr-Ni-Mn alloys most intensively. The other investigated elements slow down recrystallisation in the following order: carbon and molybdenum, vanadium, aluminium and niobium; for the latter two, the recrystallisation temperature is about the same and is the lowest. Various authors (Refs 1,2) point out that there is a strong relation between the temperature conditions of recrystallisation and the speed of diffusion processes. It was established that at temperatures corresponding to the beginning of recrystallisation, the speed of diffusion processes increases hundreds of times. The heat resistance of the alloys is also determined by the progress of diffusion processes. This indicates the existence of a relation between recrystallisation and long-duration strength. The higher the energy of activation of recrystallisation, i.e. the energy necessary for the transfer of atoms from spots with distorted crystal lattices to spots with undistorted crystal lattices,

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